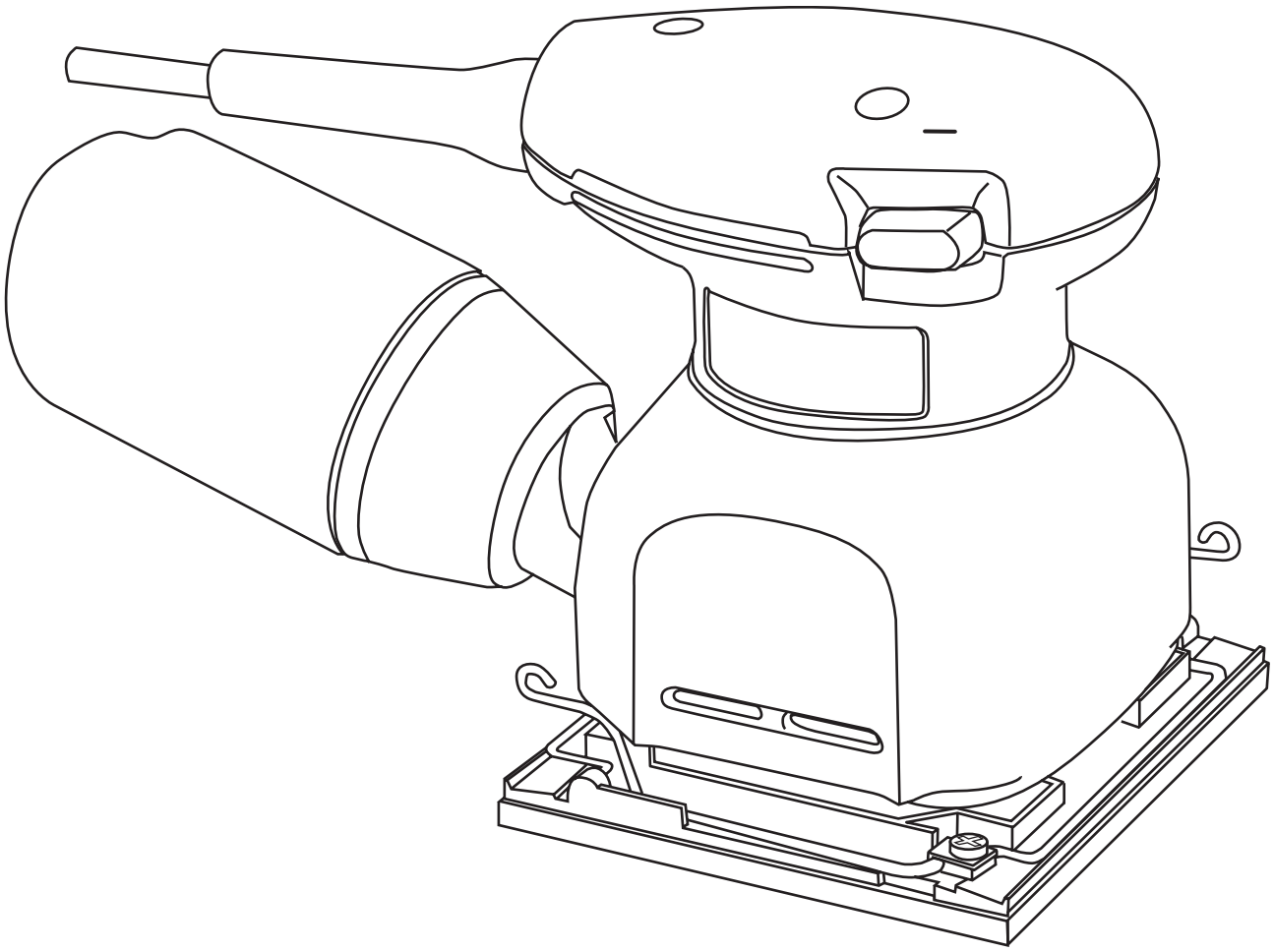
# OPERATOR'S MANUAL

## 1/4 SHEET SANDER

## DOUBLE INSULATED

## S651D



Your sander has been engineered and manufactured to our high standard for dependability, ease of operation, and operator safety. When properly cared for, it will give you years of rugged, trouble-free performance.

⚠ **WARNING:** To reduce the risk of injury, the user must read and understand the operator's manual before using this product.

Thank you for your purchase.

**SAVE THIS MANUAL FOR FUTURE REFERENCE**

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# INTRODUCTION

This tool has many features for making its use more pleasant and enjoyable. Safety, performance, and dependability have been given top priority in the design of this product making it easy to maintain and operate.

# WARRANTY

**RYOBI® POWER TOOL - LIMITED TWO YEAR WARRANTY AND 30 DAY EXCHANGE POLICY**

One World Technologies, Inc., warrants its RYOBI® power tools with the following conditions:

**30-DAY EXCHANGE POLICY:** During the first 30 days after date of purchase, you may either request service under this warranty or you may exchange any RYOBI® power tool which does not work properly due to defective workmanship or materials by returning the power tool to the dealer from which it was purchased. To receive a replacement power tool or requested warranty service, you must present proof of purchase and return all original equipment packaged with the original product. The replacement power tool will be covered by the limited warranty for the balance of the two year period from the date of the original purchase.

**WHAT THIS WARRANTY COVERS:** This warranty covers all defects in workmanship or materials in your RYOBI® power tool for a period of two years from the date of purchase. With the exception of batteries, power tool accessories are warranted for ninety (90) days. Batteries are warranted for two years.

**HOW TO GET SERVICE:** Just return the power tool, properly packaged and postage prepaid, to an Authorized Service Center. You can obtain the location of the Service Center nearest you by contacting a service representative at One World Technologies, Inc., P.O. Box 1207, Anderson, SC 29622-1207, by calling 1-800-525-2579 or by logging on to www.ryobitools.com. When you request warranty service, you must also present proof of purchase documentation, which includes the date of purchase (for example, a bill of sale). We will repair any faulty workmanship, and either repair or replace any defective part, at our option. We will do so without any charge to you. We will complete the work in a reasonable time, but, in any case, within ninety (90) days or less.

**WHAT'S NOT COVERED:** This warranty applies only to the original purchaser at retail and may not be transferred. This warranty only covers defects arising under normal usage and does not cover any malfunction, failure or defects resulting from misuse, abuse, neglect, alteration, modification or repairs by other than Authorized Service Centers. One World Technologies, Inc. makes no warranties, representations or promises as to the quality or performance of its power tools other than those specifically stated in this warranty.

**ADDITIONAL LIMITATIONS:** Any implied warranties granted under state law, including warranties of merchantability or fitness for a particular purpose, are limited to two years from the date of purchase. One World Technologies, Inc. is not responsible for direct, indirect, or incidental damages, so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

# GENERAL SAFETY RULES

**⚠ WARNING:**

**Read and understand all instructions.** Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury.

## SAVE THESE INSTRUCTIONS

## WORK AREA

- **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
- **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.
- **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

## ELECTRICAL SAFETY

- **Double insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.** Double insulation ⧈ eliminates the need for the three-wire grounded power cord and grounded power supply system.
- **Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators.** There is an increased risk of electric shock if your body is grounded.
- **Don't expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- **Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges, or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.
- **When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W".** These cords are rated for outdoor use and reduce the risk of electric shock.

## PERSONAL SAFETY

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
- **Avoid accidental starting. Be sure switch is off before plugging in.** Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.
- **Remove adjusting keys or wrenches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.
- **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.
- **Use safety equipment. Always wear eye protection.** Dust mask, nonskid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.
- **Do not wear loose clothing or jewelry. Contain long hair.** Loose clothes, jewelry, or long hair can be drawn into air vents.
- **Do not use on a ladder or unstable support.** Stable footing on a solid surface enables better control of the tool in unexpected situations.

## TOOL USE AND CARE

- **Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
- **Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
- **Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Disconnect the plug from power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.
- **Store idle tools out of the reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
- **Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools with sharp cutting edges are less likely to bind and are easier to control.
- **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
- **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool, may become hazardous when used on another tool.
- **Keep the tool and its handle dry, clean and free from oil and grease.** Always use a clean cloth when cleaning. Never use brake fluids, gasoline, petroleum-based products, or any strong solvents to clean your tool. Following this rule will reduce the risk of loss of control and deterioration of the enclosure plastic.

# GENERAL SAFETY RULES

## SERVICE

- **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel may result in a risk of injury.
- **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of shock or injury.

# SPECIFIC SAFETY RULES

- **Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord.** Contact with a "live" wire will make exposed metal parts of the cutting tool "live" and shock the operator.
- **Know your power tool. Read operator's manual carefully. Learn its applications and limitations, as well as the specific potential hazards related to this tool.** Following this rule will reduce the risk of electric shock, fire, or serious injury.
- **Always wear safety glasses. Everyday eyeglasses have only impact-resistant lenses; they are NOT safety glasses.** Following this rule will reduce the risk of serious personal injury.
- **Protect your lungs. Wear a face or dust mask if the operation is dusty.** Following this rule will reduce the risk of serious personal injury.
- **Protect your hearing. Wear hearing protection during extended periods of operation.** Following this rule will reduce the risk of serious personal injury.
- **Inspect tool cords periodically and, if damaged, have repaired at your nearest Authorized Service Center. Constantly stay aware of cord location.** Following this rule will reduce the risk of electric shock or fire.
- **Check damaged parts. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center.** Following this rule will reduce the risk of shock, fire, or serious injury.
- **Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. A wire gauge size (A.W.G.) of at least 16 is recommended for an extension cord 50 feet or less in length. A cord exceeding 100 feet is not recommended. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.** An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.
- **Inspect for and remove all nails from lumber before using this tool.** Following this rule will reduce the risk of serious personal injury.
- **If the power supply cord is damaged**, it must be replaced only by the manufacturer or by an authorized service center to avoid risk.
- **Save these instructions.** Refer to them frequently and use them to instruct others who may use this tool. If you loan someone this tool, loan them these instructions also.

**⚠ WARNING:**

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead-based paints,
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

# SYMBOLS

Some of the following symbols may be used on this tool. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and safer.

| SYMBOL | NAME | DESIGNATION/EXPLANATION |
|---|---|---|
| V | Volts | Voltage |
| A | Amperes | Current |
| Hz | Hertz | Frequency (cycles per second) |
| W | Watt | Power |
| min | Minutes | Time |
| ~ | Alternating Current | Type of current |
| ⎓ | Direct Current | Type or a characteristic of current |
| $n_0$ | No Load Speed | Rotational speed, at no load |
| ⧈ | Class II Construction | Double-insulated construction |
| .../min | Per Minute | Revolutions, strokes, surface speed, orbits etc., per minute |
| | Wet Conditions Alert | Do not expose to rain or use in damp locations. |
| | Read The Operator's Manual | To reduce the risk of injury, user must read and understand operator's manual before using this product. |
| | Eye Protection | Always wear safety goggles or safety glasses with side shields, or a full face shield when operating this product. |
| | Safety Alert | Precautions that involve your safety. |
| | No Hands Symbol | Failure to keep your hands away from the blade will result in serious personal injury. |
| | No Hands Symbol | Failure to keep your hands away from the blade will result in serious personal injury. |
| | No Hands Symbol | Failure to keep your hands away from the blade will result in serious personal injury. |
| | No Hands Symbol | Failure to keep your hands away from the blade will result in serious personal injury. |
| | Hot Surface | To reduce the risk of injury or damage, avoid contact with any hot surface. |

# SYMBOLS

The following signal words and meanings are intended to explain the levels of risk associated with this product.

| SYMBOL | SIGNAL | MEANING |
|---|---|---|
| ⚠ | **DANGER:** | Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury. |
| ⚠ | **WARNING:** | Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury. |
| ⚠ | **CAUTION:** | Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury. |
| | **CAUTION:** | (Without Safety Alert Symbol) Indicates a situation that may result in property damage. |

## SERVICE

Servicing requires extreme care and knowledge and should be performed only by a qualified service technician. For service we suggest you return the product to your nearest **AUTHORIZED SERVICE CENTER** for repair. When servicing, use only identical replacement parts.

**⚠ WARNING:**

To avoid serious personal injury, do not attempt to use this product until you read thoroughly and understand completely the operator's manual. Save this operator's manual and review frequently for continuing safe operation and instructing others who may use this product.

**⚠ WARNING:**

The operation of any power tool can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Before beginning power tool operation, always wear safety goggles or safety glasses with side shields, or a full face shield when needed. We recommend Wide Vision Safety Mask for use over eyeglasses or standard safety glasses with side shields. Always use eye protection which is marked to comply with ANSI Z87.1.

# SAVE THESE INSTRUCTIONS

# ELECTRICAL

## DOUBLE INSULATION

Double insulation is a concept in safety in electric power tools, which eliminates the need for the usual three-wire grounded power cord. All exposed metal parts are isolated from the internal metal motor components with protecting insulation. Double insulated tools do not need to be grounded.

**⚠ WARNING:**

The double insulated system is intended to protect the user from shock resulting from a break in the tool's internal insulation. Observe all normal safety precautions to avoid electrical shock.

**NOTE:** Servicing of a tool with double insulation requires extreme care and knowledge of the system and should be performed only by a qualified service technician. For service, we suggest you return the tool to your nearest authorized service center for repair. Always use original factory replacement parts when servicing.

## ELECTRICAL CONNECTION

This tool has a precision-built electric motor. It should be connected to a **power supply that is 120 volts, 60 Hz, AC only (normal household current).** Do not operate this tool on direct current (DC). A substantial voltage drop will cause a loss of power and the motor will overheat. If your tool does not operate when plugged into an outlet, double-check the power supply.

## EXTENSION CORDS

When using a power tool at a considerable distance from a power source, be sure to use an extension cord that has the capacity to handle the current the tool will draw. An undersized cord will cause a drop in line voltage, resulting in overheating and loss of power. Use the chart to determine the minimum wire size required in an extension cord. Only round jacketed cords listed by Underwriter's Laboratories (UL) should be used.

When working outdoors with a tool, use an extension cord that is designed for outside use. This type of cord is designated with "WA" on the cord's jacket.

Before using any extension cord, inspect it for loose or exposed wires and cut or worn insulation.

**Ampere rating (on tool data plate)

| | 0-2.0 | 2.1-3.4 | 3.5-5.0 | 5.1-7.0 | 7.1-12.0 | 12.1-16.0 |
|---|---|---|---|---|---|---|
| **Cord Length** | **Wire Size (A.W.G.)** | | | | | |
| 25´ | 16 | 16 | 16 | 16 | 14 | 14 |
| 50´ | 16 | 16 | 16 | 14 | 14 | 12 |
| 100´ | 16 | 16 | 14 | 12 | 10 | — |

**Used on 12 gauge - 20 amp circuit.
**NOTE:** AWG = American Wire Gauge

**⚠ WARNING:**

Keep the extension cord clear of the working area. Position the cord so that it will not get caught on lumber, tools or other obstructions while you are working with a power tool. Failure to do so can result in serious personal injury.

**⚠ WARNING:**

Check extension cords before each use. If damaged replace immediately. Never use tool with a damaged cord since touching the damaged area could cause electrical shock resulting in serious injury.

# FEATURES

## PRODUCT SPECIFICATIONS

Size of Paper ..... 1/4 Sheet
Motion ..... Orbital Action
Orbit Diameter ..... 1/16 in.
No Load Speed ..... 14,000 r/min. (RPM)
Input ..... 120 V, 60 Hz, AC only, 2.0 A

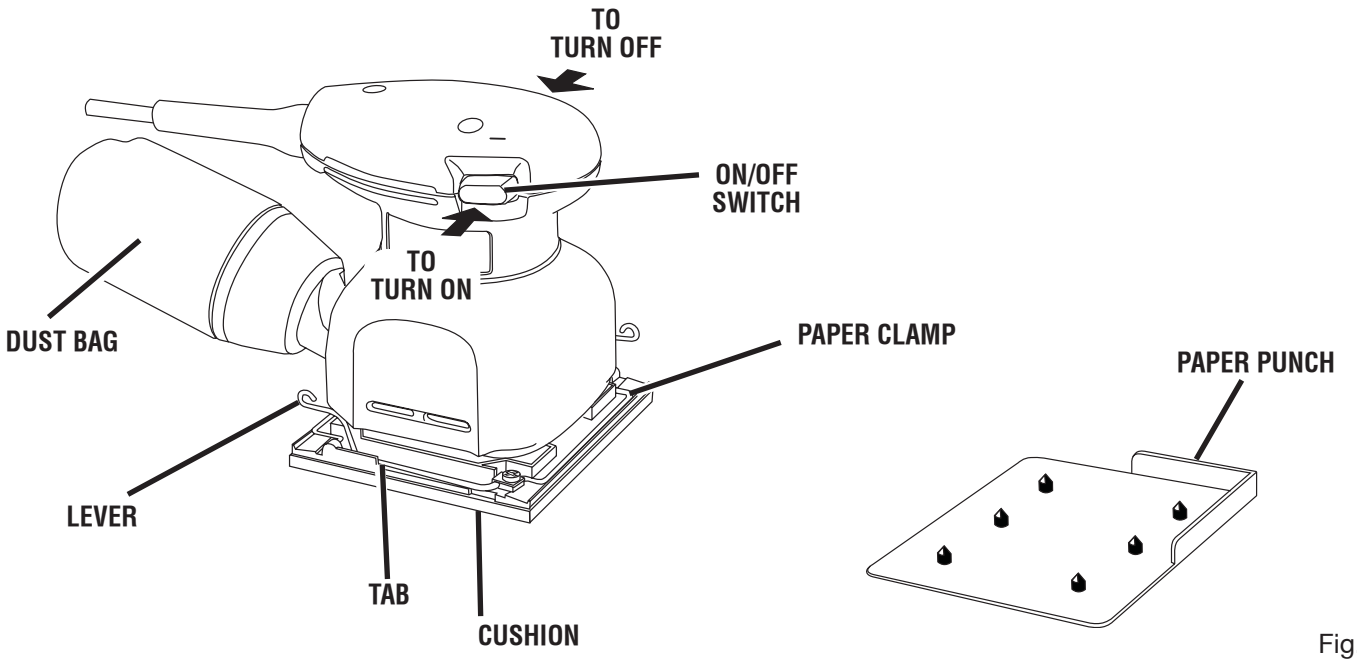

Fig. 1

## KNOW YOUR SANDER

*See Figure 1.*

Before attempting to use this product, familiarize yourself with all operating features and safety rules.

Your sander is suitable for sanding with coarse, medium, and fine grit sandpaper. It will produce a fine scratch-free finish when used to sand with the grain on wood surfaces. It has been designed so that flush sanding on three sides of the sander is possible.

## DUST BAG

Your sander has a built-in dust collection system that collects dust through punched holes in the sandpaper and cushion.

## GRIPZONE™ OVERMOLD TECHNOLOGY

The sander features Gripzone™ overmold technology for improved comfort with a positive grip.

## ON/OFF SWITCH

This tool is equipped with a simple switch control. To turn the sander "ON," slide the switch to the left **(|)**. Slide the switch to the right **(O)** to turn the sander "OFF."

## PAPER CLAMPS

Your sander has quick action paper clamps. This makes changing or replacing sandpaper fast and easy.

## PAPER PUNCH

Dustless sanding occurs when you use the paper punch to punch holes in the sandpaper prior to sanding.

# ASSEMBLY

## UNPACKING

This product has been shipped completely assembled.

- Carefully remove the tool and any accessories from the box. Make sure that all items listed in the packing list are included.
- Inspect the tool carefully to make sure no breakage or damage occurred during shipping.
- Do not discard the packing material until you have carefully inspected and satisfactorily operated the tool.
- If any parts are damaged or missing, please call 1-800-525-2579 for assistance.

## PACKING LIST

1/4 Sheet Orbital Sander

Sandpaper (3 sheets)

Dust Bag Assembly

Paper Punch

Operator's Manual

**WARNING:**

If any parts are missing do not operate this tool until the missing parts are replaced. Failure to do so could result in possible serious personal injury.

**WARNING:**

Do not attempt to modify this tool or create accessories not recommended for use with this tool. Any such alteration or modification is misuse and could result in a hazardous condition leading to possible serious personal injury.

**WARNING:**

Do not connect to power supply until assembly is complete. Failure to comply could result in accidental starting and possible serious personal injury.

# OPERATION

**WARNING:**

Do not allow familiarity with tools to make you careless. Remember that a careless fraction of a second is sufficient to inflict serious injury.

**WARNING:**

Always wear safety goggles or safety glasses with side shields when operating power tools. Failure to do so could result in objects being thrown into your eyes resulting in possible serious injury.

**WARNING:**

Do not use any attachments or accessories not recommended by the manufacturer of this tool. The use of attachments or accessories not recommended can result in serious personal injury.

## APPLICATIONS

You may use this tool for the purposes listed below:

- Sanding on wood surfaces
- Removing rust from and sanding steel surfaces
- Sanding plastics

# OPERATION

## INSTALLING SANDPAPER

The cushion on the sander gives you the option of using either non-adhesive sandpaper that clamps to the platen or adhesive backed sandpaper with pressure sensitive adhesive backing that sticks to the cushion.

## INSTALLING NON-ADHESIVE SANDPAPER

*See Figure 2.*

- Unplug the sander.
- Inspect sandpaper before installing; do not use if broken or defective.
- If replacing sandpaper, remove old sandpaper. To remove paper, release paper clamp by lifting up on lever, and disengaging it from the tab on the platen.
- Insert end of new 1/4 sheet sandpaper approximately 1/2 in. under the paper clamp.

  **NOTE:** 1/2 in. clamping of sandpaper is necessary for multi-sheet stacking of paper.
- Lift up on paper clamp lever and lock into place. Apply downward pressure to conform sandpaper to platen.
- Wrap sandpaper around cushion. Lift lever on opposite end of sander and insert loose end of sandpaper under paper clamp. Fit sandpaper against cushion tightly.
- Lift up on lever and lock into place.

## INSTALLING ADHESIVE SANDPAPER

*See Figure 2.*

- Unplug the sander.
- If replacing adhesive sandpaper, remove old sandpaper by peeling it off cushion.
- If replacing regular sandpaper, release paper clamp by lifting up on lever and disengaging it from the tab on the platen. Remove non-adhesive sandpaper, then lift up on paper clamp lever and lock it into place.
- Carefully peel adhesive backing from new 1/4 sheet sandpaper.
- Position sandpaper, making sure front edge of sandpaper is aligned with front edge of the cushion, then carefully press sticky side of sandpaper on cushion.

  **NOTE:** Sandpaper must be aligned with the front edge of the cushion for proper functioning of the flush sanding feature.

**NOTE:** The cushion on the sander is approximately 1/4 in. smaller than precut adhesive-backed sanding sheets. If desired you may want to trim off the overhang of sandpaper on the back side of cushion. The cushion has been made smaller so that multiple sheets of non-adhesive sandpaper can be installed.

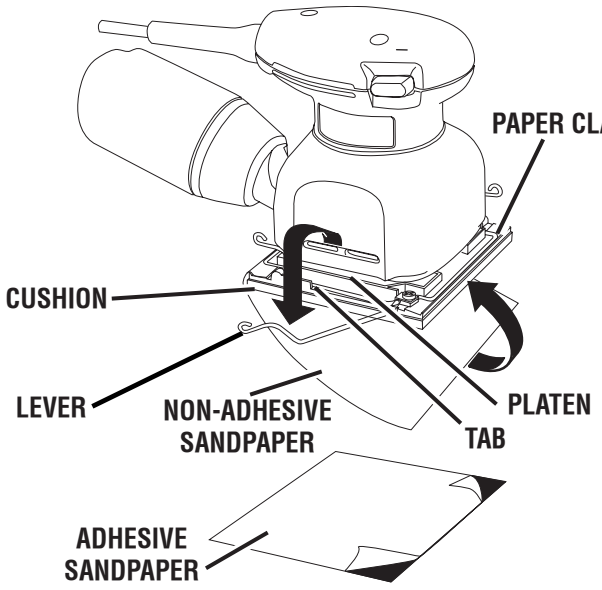


Fig. 2

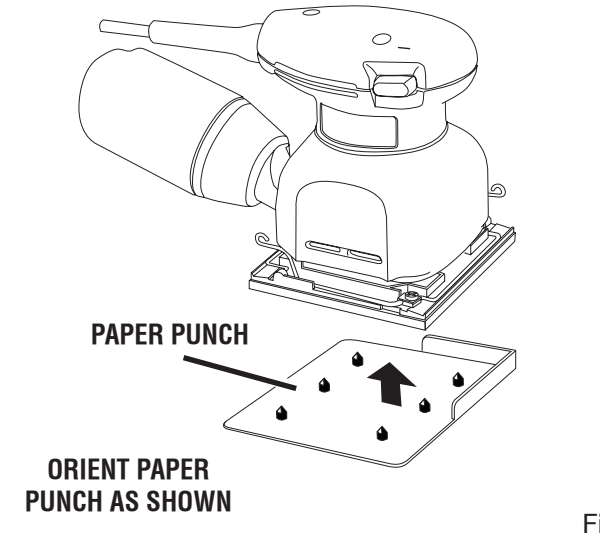


Fig. 3

## PAPER PUNCH

*See Figure 3.*

A paper punch template has been supplied with the sander for aligning and punching holes in sandpaper. The punched holes must align with the holes in the sander cushion. Punching the holes properly is a necessary step for dustless sanding.

- Install sandpaper on the sander.
- Align sander cushion to paper punch as shown.
- Push down on sander.

# OPERATION

**⚠ WARNING:**

Always wear safety goggles or safety glasses with side shields when operating your sander. Failure to do so could result in foreign objects being thrown into your eyes resulting in possible serious injury. If the sanding operating is dusty, also wear a face or dust mask.

## SANDPAPER SELECTION

Selecting the correct size grit and type sandpaper is an extremely important step in achieving a high quality sanded finish. Aluminum oxide, silicon carbide, and other synthetic abrasives are best for power sanding. Natural abrasives, such as flint and garnet are too soft for economical use in power sanding.

In general, coarse grit will remove the most material and finer grit will produce the best finish in all sanding operations. The condition of the surface to be sanded will determine which grit will do the job. If the surface is rough, start with a coarse grit and sand until the surface is uniform. Medium grit may then be used to remove scratches left by the coarser grit and finer grit used for finishing of the surface. Always continue sanding with each grit until surface is uniform.

**NOTE:** DO NOT use sander without sandpaper. Doing so will damage the cushion.

**⚠ CAUTION:**

Be careful not to let your hand completely cover air vents.

## SANDING

*See Figures 4 - 5.*

Clamp or otherwise secure the work to prevent it from moving under the sander.

**⚠ WARNING:**

Unsecured work could be thrown towards the operator causing injury.

Hold the sander in front and away from you, keeping it clear of the workpiece. Start the sander by pressing the switch button to “ON” position and letting the motor build to its maximum speed. Gradually lower the sander on the work with a slight forward movement. Move it slowly using forward and backward strokes.

**Do not force.** The weight of the unit supplies adequate pressure, so let the sandpaper and sander do the work. Applying additional pressure only slows the motor, rapidly wears sandpaper, and greatly reduces sander speed.

Excessive pressure will overload the motor causing possible damage from motor overheating and can result in inferior work. Any finish or resin on wood may soften from the frictional heat. Do not allow sanding on one spot too long as the sander’s rapid action may remove too much material, making the surface uneven.

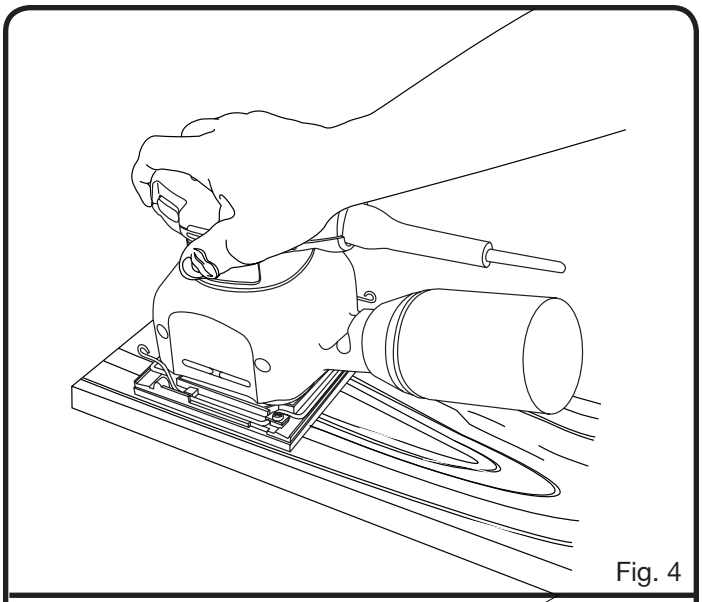

Fig. 4

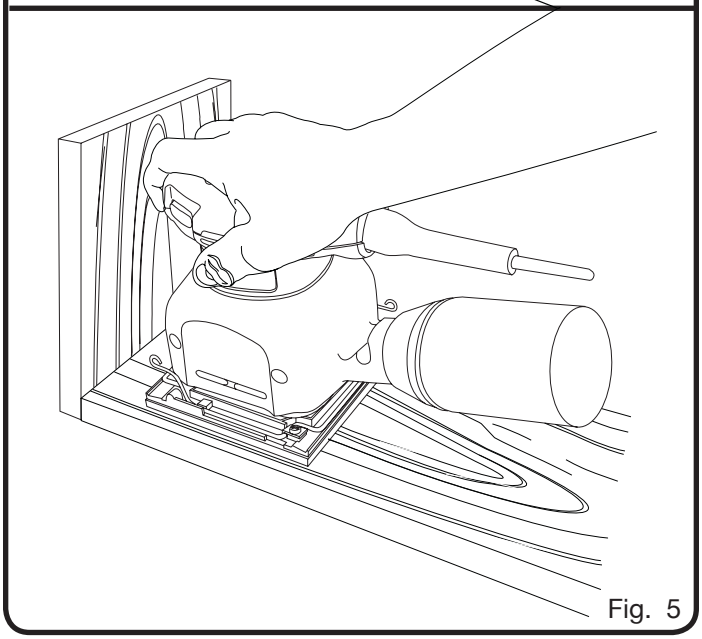

Fig. 5

Flush sanding can be performed with the sander. The front edge of the sander allows flush sanding in corners. Always remove the sander from the workpiece before turning the sander off.

**⚠ WARNING:**

Do not wear loose clothing or jewelry when operating sander. They could get caught in moving parts causing serious injury. Keep head away from sander and sanding area. Hair could be drawn into sander causing serious injury.

# OPERATION

## ORBITAL MOTION

Orbital motion is ideal for fast cutting action when removing old finishes, smoothing rough wood, cutting stock down to required dimensions, or for finishing surfaces to be painted.

As shown in figure 6, the sandpaper moves in tiny circles at a very high speed, allowing the sander to move easily.

**⚠ WARNING:**

Collected sanding dust from sanding surface coatings such as polyurethanes, linseed oil, etc. can self-ignite in your sander dust bag or elsewhere and cause fire. To reduce the risk of fire always empty your dust bag frequently while sanding and never store or leave a sander without totally emptying its dust bag. Also follow the recommendations of the coatings manufacturers.

## USING THE DUST BAG ASSEMBLY

The dust bag assembly provides a dust collection system for the sander. Dust is drawn up through holes in the sandpaper and cushion and collected in the dust bag during sanding.

## ATTACHING THE DUST BAG ASSEMBLY

*See Figure 7.*

To attach the dust bag assembly:

- Unplug the sander.
- Slide the dust bag assembly onto the blower exhaust on the sander using a slight twisting motion.

## CLEANING THE DUST BAG ASSEMBLY

*See Figures 7 - 8.*

For more efficient operation, empty the dust bag when it is no more than half full. This will permit the air to flow through the bag better.

To empty the dust bag:

- Unplug the sander.
- Remove the dust bag from the sander and shake out dust.
- For a more thorough cleaning of the dust bag, remove dust bag from the frame and shake out dust.
- Replace the dust bag over the frame, then reinstall on the sander.

**⚠ WARNING**

Collected sanding dust from sanding surface coatings such as polyurethanes, linseed oil, etc., can self-ignite in the sander dust bag or elsewhere and cause fire. To reduce the risk of fire, always empty the dust bag frequently (10-15 minutes) while sanding and never store or leave a sander without totally emptying its dust bag. Also follow the recommendations of the coatings manufacturers.

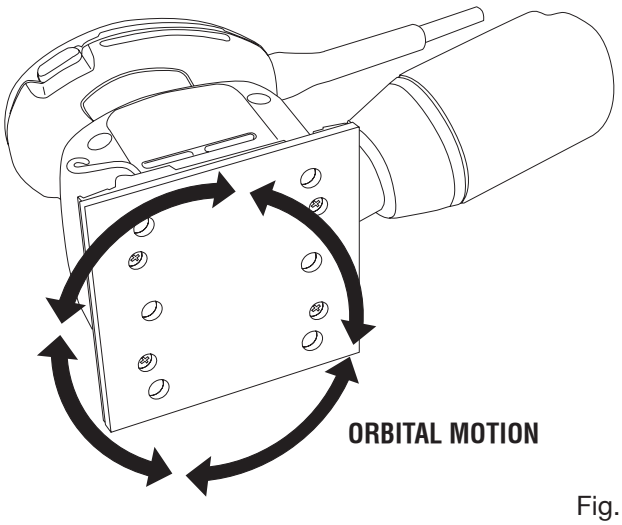


Fig. 6

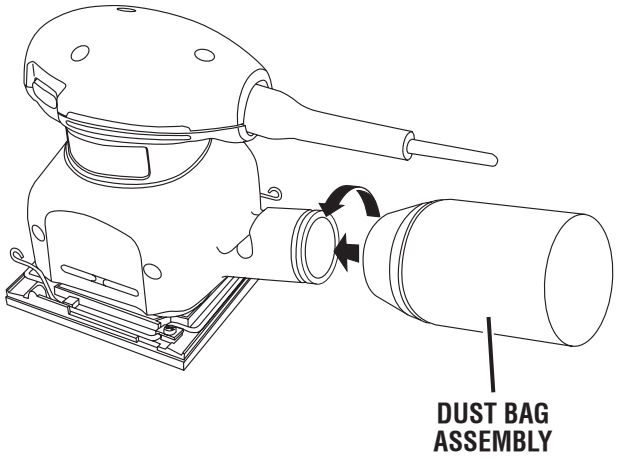


Fig. 7

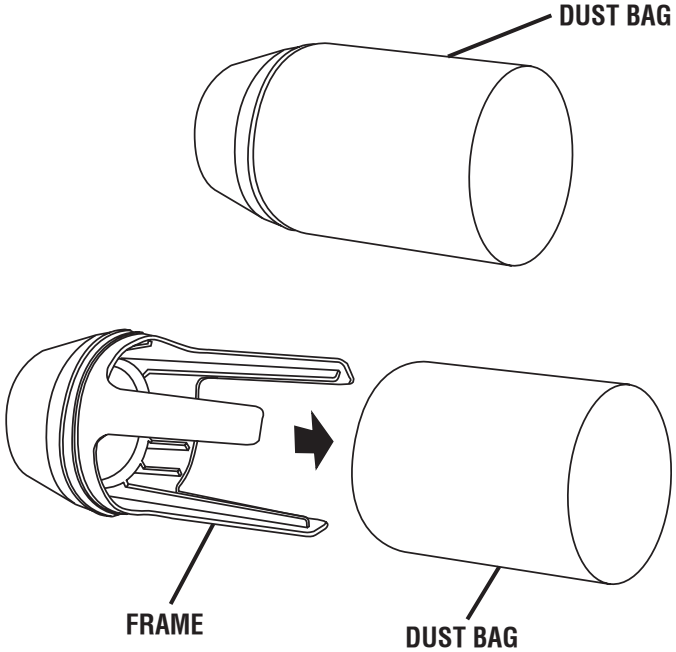


Fig. 8

# OPERATION

## ATTACHING SANDER TO VACUUM

*See Figure 9.*

When sanding for an extended period of time, you can easily attach the dust collection system of the sander to a vacuum.

To Attach:

- Unplug the sander.
- Remove dust bag from sander.
- Attach vacuum hose to dust exhaust.

  **NOTE:** Vacuum hose fits inside dust exhaust.
- Connect sander and vacuum to power supply.

**⚠ WARNING**

When sander is not connected to vacuum, always install dust bag back on sander. Failure to do so could cause sanding dust or foreign objects to be thrown into the face or eyes which could result in possible serious injury.

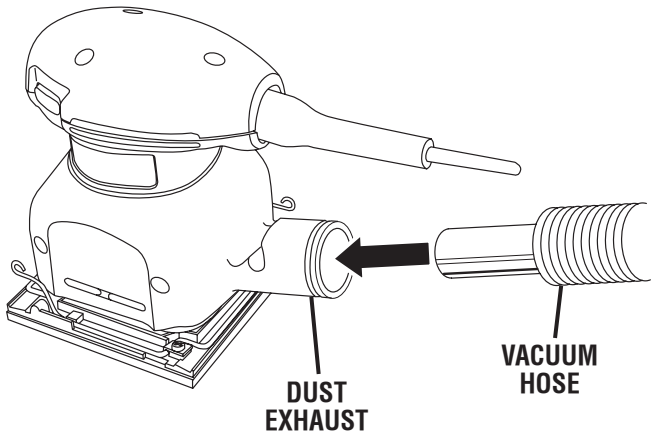


Fig. 9

# MAINTENANCE

**⚠ WARNING:**

When servicing, use only identical Ryobi replacement parts. Use of any other parts may create a hazard or cause product damage.

**⚠ WARNING:**

Always wear safety goggles or safety glasses with side shields during power tool operation or when blowing dust. If operation is dusty, also wear a dust mask.

## GENERAL MAINTENANCE

Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use. Use clean cloths to remove dirt, dust, oil, grease, etc.

**⚠ WARNING:**

Do not at any time let brake fluids, gasoline, petroleum-based products, penetrating oils, etc., come in contact with plastic parts. Chemicals can damage, weaken or destroy plastic which may result in serious personal injury.

Electric tools used on fiberglass material, wallboard, spackling compounds, or plaster are subject to accelerated wear and possible premature failure because the fiberglass chips and grindings are highly abrasive to bearings, brushes, commutators, etc. Consequently, we do not recommended using this tool for extended work on these types of materials. However, if you do work with any of these materials, it is extremely important to clean the tool using compressed air.

## LUBRICATION

All of the bearings in this tool are lubricated with a sufficient amount of high grade lubricant for the life of the unit under normal operating conditions. Therefore, no further lubrication is required.

# OPERATOR'S MANUAL

## 1/4 SHEET SANDER

## DOUBLE INSULATED

## S651D

### • SERVICE

Now that you have purchased your tool, should a need ever exist for repair parts or service, simply contact your nearest Authorized Service Center. Be sure to provide all pertinent facts when you call or visit. Please call 1-800-525-2579 for your nearest Authorized Service Center. You can also check our web site at www.ryobitools.com for a complete list of Authorized Service Centers.

### • MODEL NO. AND SERIAL NO.

The model number of this tool will be found on a plate attached to the motor housing. Please record the model number and serial number in the space provided below.

### • HOW TO ORDER REPAIR PARTS

When ordering repair parts, always give the following information:

- MODEL NUMBER S651D
- SERIAL NUMBER _____

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